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BAT RECORDS FROM MAURITANIA, AFRICA (MAMMALIA: CHIROPTERA)

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ABSTRACT

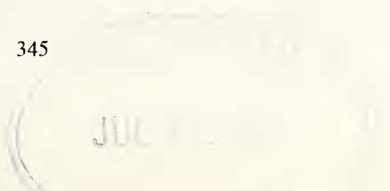
The occurrence of seven species of bats previously unknown in Mauritania are documented, making a total of 11 species of bats recorded from the country. The new records include *Taphozous perforatus*, *Nycteris hispida*, *Hipposideros caffer*, *Asellia tridens*, *Pipistrellus rueppelli*, *Scotophilus leucogaster*, and *Tadarida condylura*. Additional information is provided on three species of bats (*Rhinopoma hardwickei*, *R. microphylum*, and *Nycticeius schlieffeni*) already known to occur in Mauritania.

INTRODUCTION

Mauritania is situated in northwestern Africa, bounded in the north by Algeria and Morocco, in the east by Mali, in the south by Senegal and Mali, and in the west by the Atlantic Ocean. Very few published reports deal with the bat fauna of Mauritania. Those few existing reports, particularly the old ones, are diverse in scope and attention (Rochebrune, 1883; Dekeyser and Villiers, 1952, 1956; and Poulet, 1970).

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This report is based primarily on a collection of specimens made as part of the African Mammal Project of the Division of Mammals, National Museum of Natural History, Smithsonian Institution. In addition, a single specimen of *Asellia tridens* in the mammal collection of Carnegie Museum of Natural History is included.

The senior author is involved in a major study of the distribution, systematics, and zoogeographical relationships of the bats of North Africa north of the 18°N latitude line. Because of the paucity of bat records from Mauritania and because the country, and the few records available, straddle the 18°N latitude line, this summary paper was completed so that the information might be available.

The following is a list of localities with coordinates from which the bats reported were collected. The coordinates are those given in the Official Standard Names Gazetteer, United States Board on Geographic Names. Species collected and dates of collection are given for each locality.

- 1) Akjoujt, Mogrein Copper Mine (19°45'N, 14°23'W). *Rhinopoma hardwickei* and *R. microphyllum*. 18, 21, 22 November 1966.
- 2) 8 km N Boghe (16°39'N, 14°17'W). *Taphozous perforatus* and *Nycticeius schlieffeni*. 6 May 1967.
- 3) Garak (16°33'N, 15°46'W). *Nycteris hispida*, *Hipposideros caffer*, and *Pipistrellus rueppelli*. 16, 18 April 1967; 1, 2 May 1967.
- 4) 3 km S Aleg (17°02'N, 13°55'W). *Asellia tridens*, *Nycticeius schlieffeni*, and *Scotophilus leucogaster*. 12, 16 May 1967.
- 5) Tiguent (17°16'N, 16°01'W). *Nycticeius schlieffeni*. 12, 13 April 1967.
- 6) Passe de Soufa (15°56'N, 12°01'W). *Nycticeius schlieffeni*. 30 May 1967.
- 7) Rosso (16°31'N, 15°49'W). *Hipposideros caffer* and *Tadarida condylura*. 28 April 1967; 1 May 1967.

The accounts are listed phylogenetically with measurements and natural history notes given under the species. We would like to thank Charles O. Handley, Jr., Richard W. Thorington, Jr., and Michael D. Carlton for allowing us to study the North African bats, including these Mauritanian specimens.

ACCOUNTS OF SPECIES

Family Rhinopomatidae

Rhinopoma hardwickei Gray, 1831

Specimens examined.—Akjoujt, Mogrein Copper Mine, 27 skins with skulls (11 ♂♂, 16 ♀♀), 8 in alcohol (2 ♂♂, 6 ♀♀).

Remarks.—Kock (1969) showed that the *Rhinopoma* reported as *R. microphyllum* from Grotte de Lapin and Adrar by Dekeyser and Villiers (1952, 1956) were instead *R. hardwickei*. Kock (1969) also listed material from Fort Gouraud. Poulet (1970) recorded *R. hardwickei* from Akjoujt with specimens from Mogrein Copper Mine. The taxonomic status of Saharan *R. hardwickei* is unclear at this time. Kock (1969) referred specimens from south of the Sahara to *R. h. sennaariense* and those from Niger and southern Algeria to *R. h. cystops*. Hill (1977) referred all Moroccan and Mauritanian material to *R. h.*

Table 1.—External and cranial measurements of selected specimens of three species of bats from Mauritania.

Catalog no. and sex	Locality	Length of forearm	Condylo-basal length	Zygo-matic breadth	Post-orbital breadth	Breadth of brain-case	Mastoi-dal breadth	Length of maxil-lary tooth-row	Breadth across upper molars
<i>Taphozous perforatus</i>									
USNM 401331 ♀	8 km N Boghe	62.5	18.7	11.6	4.5	9.6	10.4	8.1	8.0
<i>Pipistrellus rueppelli</i>									
USNM 401420 ♀	Garek	33.7	—	—	—	—	—	4.6	—
<i>Scotophilus leucogaster</i>									
USNM 401431 ♂	3 km S Aleg	49.1	18.1	14.3	5.1	9.7	12.9	6.5	—
USNM 401432 ♂	3 km S Aleg	50.6	18.0	13.8	4.8	9.5	12.0	6.7	8.6

arabium and pointed out that the name *sennaariense* Fitzinger, 1866, was listed with no description. Hill (1977) regarded all material from North Africa except Upper and Central Egypt as belonging to the slightly larger Arabian peninsula subspecies *R. h. arabium*. A detailed study of geographic variation throughout the range of the species is needed to better understand subspecific limits.

Rhinopoma microphyllum (Brunnich, 1782)

Specimens examined.—Akjoujt, Mogrein Copper Mine, 29 skins with skulls (16 ♂♂, 13 ♀♀), 12 in alcohol (7 ♂♂, 5 ♀♀).

Remarks.—The large mouse-tailed bat was first reported in Mauritania from Grotte de Lapin and Adrar by Dekeyser and Villiers (1952, 1956) but Kock (1969) showed these to be *R. hardwickei*. Subsequently, Poulet (1970) reported both species from Mogrein Copper Mine at Akjoujt. We concur with Hill (1977) that Mauritanian specimens are closer to the nominate subspecies than to the larger *R. m. tropicalis* from Sudan and Nigeria. As Hill (1977) showed in the Sudan, we believe there is still a need for a critical examination of geographic variation in this species before subspecific limits will be understood.

Family Emballonuridae

Taphozous perforatus (E. Geoffroy, 1818)

Specimen examined.—8 km N Boghe, 1 skin with skull (1 ♀).

Remarks.—This specimen is the first record of this species from Mauritania. *T. perforatus* has been reported from Senegal (Rochebune, 1883) and Mali (Aellen, 1957). The recognition of subspecies in *T. perforatus* is controversial (Rosevear, 1965; Hayman and Hill, 1971; Corbet, 1978), and little can be added based on a single specimen.

The single adult female was collected on 6 May 1967 and carried a single embryo measuring 18 mm in crown-rump length in the right horn of the uterus.

Measurements.—See Table 1.

Family Nycteridae
Nycteris hispida (Schreber, 1774)

Specimens examined.—Garak, 52 skins with skulls (26 ♂♂, 26 ♀♀), 125 in alcohol (47 ♂♂, 78 ♀♀).

Remarks.—This is the first report of this widespread African species for Mauritania. The closest record of occurrence to Garak is at Rosso, just south of the Senegal River in Senegal (Adam and Hubert, 1977). The Mauritanian locality thus represents the northwesternmost record of the hairy slit-faced bat in Africa. The range of this species seems limited by the Sahara, although *Nycteris thebaica* occurs widely in northern Africa.

Sixteen females collected on 16 April 1967 each carried a single embryo in the right uterine horn. The embryos, ranging from 11 to 18 mm in crown-rump length, averaged 14.2 mm in length.

Family Hipposideridae
Hipposideros caffer (Sundevall, 1846)

Specimens examined.—Garak, 4 skins with skulls (1 ♂, 3 ♀♀); Rosso, 1 in alcohol (1 ♀).

Remarks.—The Mauritanian specimens, the first reported for the country, are referable to *H. c. tephrus*, the Saharan subspecies of this widespread African species. Hayman and Hill (1971) listed the species from Senegal; Aellen (1956) reported specimens of *H. c. guineensis* (= *H. ruber guineensis*) from Badi, Senegal.

Asellia tridens (E. Geoffroy, 1818)

Specimens examined.—3 km S Aleg, 33 skins with skulls (18 ♂♂, 15 ♀♀).

Remarks.—*Asellia tridens* occurs in a patchy distribution from Pakistan through southwestern Asia and across northern Africa as far south as Gambia, Senegal, Sudan, and Somalia (Corbet, 1978). These specimens are the first reported for Mauritania. Within the species there is much local variation in pelage color, with individuals ranging from gray to reddish in color. The Mauritanian specimens exhibit this typical variation. The name *A. t. diluta*, reported from the Algerian Sahara, is available for the Mauritanian material. However, a detailed study of geographic variation within the species is needed.

Five females collected on 16 May 1967 each had one embryo in the

left horn of the uterus. These embryos measured 7, 8, 12, 13, and 13 mm in crown-rump length.

Family Vespertilionidae
Nycticeius schlieffeni (Peters, 1859)

Specimens examined.—Tiguent, 4 skins with skulls (2 ♂♂, 2 ♀♀), 1 in alcohol (1 ♀); 8 km N Boghe, 1 skin with skull (1 ♂); 3 km S Aleg, 2 skins with skulls (2 ♂♂), 2 in alcohol (2 ♂♂); Passe de Souffa, 2 skins with skulls (1 ♂, 1 ♀).

Remarks.—The Mauritanian specimens are referable to *N. s. albiventer* Thomas and Wroughton, 1908, the subspecies considered by Hayman and Hill (1971) to include the western African material. This species is widespread in the savanna regions of Africa. In Mauritania, it seems to be restricted to the southern Sahel savanna region. In his review of West African bats, Rosevear (1965) listed records from Trarza Country, the southwestern coastal corner of Mauritania.

Pipistrellus rueppelli (Fischer, 1829)

Specimens examined.—Garak, 2 skins with skulls (1 ♂, 1 ♀), 1 in alcohol (1 ♀).

Remarks.—Although widely distributed in Africa, Rueppell's bat does not appear to be locally common. These specimens, the first reported for Mauritania, are assigned to *P. r. senegalensis* Dorst, 1960, known only from Richard Toll, Senegal (Adam and Hubert, 1972). But, as pointed out by Hayman and Hill (1971), the subspecies limits of the species are not clear.

The single male collected on 2 May 1967 was a juvenile with unfused epiphyses and weighed 4 grams. The forearm length was 31.9 mm, and had nearly reached the adult length. Both females were collected on 18 April 1967 and were not pregnant when captured.

Measurements.—See Table 1.

Scotophilus leucogaster (Cretzschmar, 1830)

Specimens examined.—3 km S Aleg, 2 skins with skulls (2 ♂♂).

Remarks.—These two specimens are the first record of *S. leucogaster* from Mauritania. The small species of *Scotophilus* are in a confused state of taxonomy (Kock, 1969; Koopman, 1975; Koopman et al., 1978; Robbins, 1978; Hill, 1980; Robbins, 1980). In West Africa there seems to be three species—the largest *S. dinganii* or *S. nux*, the middle-sized *S. leucogaster* (although Koopman et al., 1978, seem to recognize three taxa but at the same time suggest placing both the large and middle-sized taxa together under *S. leucogaster*), and the small *S. nigritellus*. Hill (1980) has shown that *S. viridis* of southern Africa is predated by *S. borbonicus* (E. Geoffroy,

1803) and thus if *S. viridis* is a junior synonym of *S. leucogaster* as suggested by some, both would be known by *S. borbonicus*. We prefer to call the medium-sized, savanna inhabiting species in West Africa *S. leucogaster* until a revision of the genus in Africa clarifies the taxonomic relationships.

Measurements.—See Table 1.

Family Molossidae

Tadarida condylura (A. Smith, 1833)

Specimens examined.—Rosso, 70 skins with skulls (50 ♂♂, 20 ♀♀), 33 in alcohol (27 ♂♂, 6 ♀♀).

Remarks.—The Angola free-tailed bat is a common inhabitant of dwellings and other buildings throughout its widespread range in Africa. These specimens, the first records for Mauritania, represent the northwestern limits of the geographic distribution of *T. condylura* in this region.

Five females examined on 28 April 1967 evidenced reproductive activity. Each carried a single embryo in the right horn of the uterus. Crown-rump lengths of the five embryos were 12, 16, 17, 17, and 18 mm.

DISCUSSION

Eleven species of bats are now known from Mauritania. Ten of these 11 are covered in this paper with seven species reported for the first time for the country. *Taphozous nudiventris* was reported previously by Panouse (1951) and Aellen (1957) and is not covered in the present paper.

Judging from the records of bats known from adjacent countries (Morocco, Algeria, Senegal, and Gambia), as many as 36 additional species could be found to occur in Mauritania. Thirty of these species are predominantly sub-Saharan in distribution and are known from Senegal (27) and Gambia (3). Of these 30, seven are Pteropodids which may occur in Mauritania although some such as *Hypignathus montrosus*, known from Gambia, will certainly be found only along the Senegal River in extreme southern Mauritania if it occurs in the country. Of the remaining species, *Hipposideros cyclops*, reported from Senegal, also is generally a forest block species and may occur only along the Senegal River in Mauritania. Others such as *Myopterus daubentoni* from Senegal are poorly known and probably occur in woodland only. *Nycteris thebaica* is a widespread African species that is known as far north as Morocco and so will certainly occur in Mauritania.

Three species of bats that are Palearctic in distribution are known from Algeria and Morocco so may occur in Mauritania. These are *Pipistrellus kuhli*, *Otonycteris hemprichi*, and *Tadarida teniotis*. An

additional Palaearctic species, *Plecotus austriacus*, is known from Senegal and Cape Verde Islands so should be found in Mauritania.

Judging by the number of species known from surrounding countries but not yet recorded from Mauritania, it is probable that the list of species of bats for this country could increase to as many as 47 species. Most of these species should be found to occur in southern Mauritania but some additional species with primarily Palaearctic distributions may be found in the north.

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